



Smit AJ

JOURNAL OF APPLIED PHYCOLOGY

16 (4): 245-262 AUG 2004

Document type: Review **Language:** English

Abstract:

In the last three decades the discovery of metabolites with biological activities from macroalgae has increased significantly. However, despite the intense research effort by academic and corporate institutions, very few products with real potential have been identified or developed. Based on Silverplatter MEDLINE and Aquatic Biology, Aquaculture & Fisheries Resources databases, the literature was searched for natural products from marine macroalgae in the Rhodophyta, Phaeophyta and Chlorophyta with biological and pharmacological activity. Substances that currently receive most attention from pharmaceutical companies for use in drug development, or from researchers in the field of medicine-related research include: sulphated polysaccharides as antiviral substances, halogenated furanones from *Delisea pulchra* as antifouling compounds, and kahalalide F from a species of *Bryopsis* as a possible treatment of lung **cancer**, tumours and AIDS. Other substances such as macroalgal lectins, fucoidans, kainoids and aplysiatoxins are routinely used in biomedical research and a multitude of other substances have known biological activities. The potential pharmaceutical, medicinal and research applications of these compounds are discussed.